REMARKS

By the above amendment, the title has been amended to be more clearly indicative of the claimed invention, the cross reference to related application has been updated and informalities in the specification have been corrected. Additionally, claim 1 has been amended to define a range of the relative imidization ratio and new dependent claims 2-11 have been presented which depend directly or indirectly from claim 1. Also, new independent claims 12 and 13 have been presented, reciting further features of the present invention, as will be discussed below, and dependent claims 14-23 which depend directly or indirectly from claims 12 and 13 have been presented.

As to the rejection of claim 1 under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al, USPAT 6,078,375 in view of Sunohara et al, USPAT 5,596,435, this rejection is traversed insofar as it is applicable to the present claims, and reconsideration and withdrawal of the rejection are respectfully requested.

As to the requirements to support a rejection under 35 U.S.C. 103, reference is made to the decision of In re Fine, 5 USPQ 2d 1596 (Fed. Cir. 1988), wherein the court pointed out that the PTO has the burden under §103 to establish a prima facie case of obviousness and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. As noted by the court, whether a particular combination might be "obvious to try" is not a legitimate test of patentability and obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. As further noted by the court, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Furthermore, such requirements have been clarified in the recent decision of In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002) wherein the court in reversing an obviousness rejection indicated that deficiencies of the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge". The court pointed out:

> The Examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is immaterial to patentability, and could not be resolved on subjected belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher."... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion. (emphasis added)

In setting forth the rejection, the Examiner recognizes that "Matsumoto differs from the claimed invention because they do not explicitly disclose that the alignment layer is made of an organic polymer selected from the group consisting of polyamic acid group polymers and polyimide ester group polymers having a relative imidization ratio of above 60%". (emphasis added) Applicants note that not only do Matsumoto et al "not explicitly disclose" the recited features of the alignment layer, but, in fact, Matsumoto et al provides no disclosure concerning the makeup of the alignment layer and an imidization ratio thereof. Thus, applicants submit that Matsumoto et al provides no disclosure or teaching in the sense of 35 U.S.C. 103 of the makeup of the alignment layer having a relative imidization ratio above 60% as originally recited in claim 1. Applicants note that by the present amendment, claim 1

has been amended to recite a range of the relative imidization ratio of "from above 60% to less than 90%". Applicants submit that basis for the range is set forth in the specification disclosing a value of "about 65%" at page 43, line 14 of the specification, which value is above 60% and a value of "about 80%" at page 55, line 4 of the specification, which value is less than 90% and intermediate values being described at other portions of the specification. Thus, applicants submit that the specification provides support for the range as now set forth in claim 1, which range is also not disclosed or taught by Matsumoto et al, such that applicants submit that claim 1, as amended, patentably distinguishes over Matsumoto et al in the sense of 35 U.S.C. 103 and should be considered allowable thereover.

The Examiner recognizing the deficiency of Matsumoto et al cites Sunohara et al with the Examiner indicating that "Sunohara discloses a liquid crystal display including alignment layers wherein the alignment layers are made of organic polymer selected from the group consisting of polyamic acid group polymers and polyimide ester group polymers having a relative imidization ratio above 90% (abstract)(which is above 60%)." (emphasis added) Irrespective of this disclosure of Sunohara et al concerning an imidization, applicants submit that Sunohara et al do not disclose the recited feature of claim 1 of "pixel electrodes and common electrodes and active elements arranged on at least one substrate of said pair of substrates..." (emphasis added), so that the Examiner's contention that "Therefore, it would been obvious to one of ordinary skill in the art at the time of the invention was made to modify the display of Matsumoto such that the alignment layers are made of an organic polymer selected from the group consisting of polyamic acid group polymers and polyimide ester group polymers having a relative imidization ratio of above 70%, so that a display that is free from fault in display performance is obtained" represents a hindsight reconstruction attempt utilizing the principle of "obvious to try" which is not the standard of 35 U.S.C. 103. See In re Fine, supra.

Moreover, as recognized by the Examiner, the disclosure of Sunohara et al is to have an alignment layer with an imidization degree of not less than 90%. (See the abstract and claim 1 of Sunohara et al, for example.) Thus, while the Examiner contends that at least 90% encompasses a value of above 60%, it is readily apparent that the disclosure of Sunohara et al specifically excludes any value of imidization less than 90%. By the present amendment, applicants submit that the recitation of a range of relative imidization ratio from above 60% to less than 90% is not only contrary to the disclosure of Sunohara et al, but is specifically excluded by Sunohara et al, such that claim 1, as amended, patentably distinguishes over Matsumoto et al and Sunohara et al, taken alone or in any combination thereof. Thus, applicants submit that claim 1 patentably distinguishes over this proposed combination of references in the sense of 35 U.S.C. 103 and should be considered allowable thereover.

With respect to dependent claims 2-11, such claims define further features of the present invention including relative imidization ratio within the range which is above 70% and about 80%. The other dependent claims recite additional features which when considered in conjunction with the parent claims further patentably distinguish over the cited art and should also be considered allowable at this time.

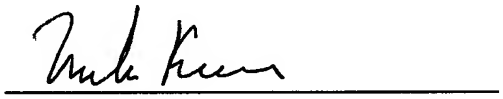
Turning to new independent claims 12 and 13, applicants note that such claims are directed to the feature that an alignment layer inside of the substrate having the pixel and common electrodes formed thereon has insulation properties and a thickness T of the alignment layer having the insulation properties nearer to one of the pixel electrode and the common electrode is larger than a value of one fourth of an interval L between the pixel electrode and the common electrode. As described in the specification of this application, as illustrated in Fig. 1, for example, the pixel electrode 5 is spaced from the common electrode 2 by an insulation film 4 and the alignment layer 9 is spaced from the pixel electrode 5 by insulation films 7

and 8. As described in the paragraph bridging pages 26 and 27 of the specification with regard to the first embodiment of the invention, by forming the insulation film having a film thickness T composed of the insulation film 7 and the protective insulation film 8 between the alignment layer and the electrode near the alignment layer, the pixel electrode 5 in this case, the relative ratio of electric field intensity at the vicinity of the alignment layer on the side opposite to the electrode to the electric field intensity in the vicinity of the alignment on the electrode side can be increased. Further, as described at page 27, lines 9-15 of the specification, by forming the insulation film so as to make the film thickness T thicker and 1/4 of the interval between the electrode L, the change of the electric field intensity becomes gentle, and the electric field intensity at the vicinity of the electrode is relatively decreased to one-half. While this description relates to the thickness of the insulation film, the paragraph bridging pages 23 and 24 of the specification describes the utilization of at least one layer of the insulation film and increasing the thickness of the insulation film and a portion of this paragraph at page 24, lines 9-12 of the specification, provide "Further, since the alignment layer made of a polyimide group material functions as an insulation film having a dielectric constant of about 4, the film thickness of the alignment layer is preferably thicker, similar to the insulation film described above". Thus, in accordance with the present invention, as recited in claims 12 and 13, the alignment layer having the insulation properties is provided with a thickness in the manner described in the specification of this application, and such features are presented in independent claims 12 and 13. Dependent claims 14-23 recite further features of the present invention, including reciting a relative imidization ratio in a range which excludes 90% and above, and recite other features of the invention. Applicants submit that neither Matsumoto et al nor Sunohara et al disclose or teach the recited features of claims 12 and 13 and the dependent claims thereof, such that these claims should also be considered allowable at this time.

In view of the above amendments and remarks, applicants submit that all claims present in this application should now be in condition for allowance, and issuance of an action of a favorable nature is courteously solicited.

To the extent necessary, applicant's petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (503.39601CX1) and please credit any excess fees to such deposit account.

Respectfully submitted,



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